

IN THE CLAIMS

Please amend the claims as follows.

1-20. Canceled

21. (New) An electronic assembly comprising:

a substrate;

an integrated circuit mounted on the substrate; and

a heat sink thermally coupled to the integrated circuit, the heat sink including a thermally conductive core having an outer surface and a plurality of non-planar helical fins extending from the outer surface of the core, the non-planar helical fins being oriented at an angle substantially between 30 and 60 degrees relative to a longitudinal axis of the heat sink; and

a fan having a longitudinal axis, the longitudinal axis of the fan being substantially aligned with the longitudinal axis of the heat sink, the fan including an impeller having a plurality of blades that create an airflow as the impeller rotates, the airflow generated by the plurality of blades being oriented at substantially the same angle relative to the longitudinal axis of the fan as the angle of the non-planar helical fins is relative to the longitudinal axis of the heat sink.

22. (New) The heat sink of claim 21 wherein the non-planar helical fins are oriented at an angle of about 45 degrees relative to the longitudinal axis of the heat sink.

23. (New) The heat sink of claim 21 wherein the core is a cylindrical rod.

24. (New) The heat sink of claim 21 wherein the non-planar helical fins spiral around the thermally conductive core at a substantially uniform pitch.

25. (New) The heat sink of claim 21 wherein the non-planar helical fins have a similar width.
26. (New) The heat sink of claim 21 wherein the heat sink includes at least 5 non-planar helical fins.
26. (New) The heat sink of claim 21 wherein the core includes a top surface and a bottom surface and the non-planar helical fins includes opposing edges, at least one of the opposing edges being aligned with at least one of the top and bottom surfaces of the core.
27. (New) The heat sink of claim 21 wherein the core is cylindrical.
28. (New) A method of removing heat from an integrated circuit, the method comprising:
thermally coupling a heat sink to the integrated circuit, the heat sink including a thermally conductive core having an outer surface and a plurality of non-planar helical fins that extend from the outer surface of the core, the non-planar helical fins being oriented at an angle substantially between 30 and 60 degrees relative to a longitudinal axis of the heat sink; and
positioning a fan near the heat sink to generate airflow over the non-planar helical fins of the heat sink, wherein positioning a fan near the heat sink includes orienting the fan to generate an airflow that is at substantially the same angle relative to the longitudinal axis of the heat sink as the angle of the non-planar helical fins is relative to the longitudinal axis of the heat sink.
29. (New) The method of claim 28 wherein positioning a fan near the heat sink includes aligning a longitudinal axis of the fan with the longitudinal axis of the heat sink.
30. (New) The method of claim 28 wherein thermally coupling a heat sink to the integrated circuit includes thermally coupling the thermally conductive core of the heat sink to the integrated circuit.

31. (New) A method of removing heat from an integrated circuit, the method comprising:
thermally coupling a heat sink to the integrated circuit, the heat sink including a thermally conductive core having an outer surface, and a plurality of non-planar helical fins that extend from the outer surface of the core, the non-planar helical fins being oriented at an angle substantially between 30 and 60 degrees relative to a longitudinal axis of the heat sink; and
positioning a fan near the heat sink to generate airflow over the non-planar helical fins of the heat sink, wherein positioning a fan near the heat sink includes aligning a longitudinal axis of the fan with the longitudinal axis of the heat sink and orienting the fan to generate an airflow that is at substantially the same angle relative to the longitudinal axis of the heat sink as the angle of the non-planar helical fins is relative to the longitudinal axis of the heat sink.
32. (New) The method of claim 31 wherein thermally coupling a heat sink to the integrated circuit includes thermally coupling the thermally conductive core of the heat sink to the integrated circuit.